

WHAT IS CLAIMED IS:

1. A camera comprising:
 - a first sensor disposed to image light that propagates along a reflected axis;
 - a second sensor disposed to image light that propagates along a direct axis;and
 - a rotatable structure disposed to define a rotation plane that is oblique to both the reflected axis and the direct axis,
 - wherein the rotatable structure is one of a first structure and a second structure,
 - wherein the first structure includes a first transmission sector, a first reflection sector disposed adjacent to the first transmission sector, a second transmission sector disposed adjacent to the first reflection sector and a second reflection sector disposed adjacent to the second transmission sector, and
 - wherein the second structure includes a first reflection sector, a first opaque sector disposed adjacent to the first reflection sector, and a first transmission sector disposed adjacent to the first opaque sector.
2. The camera of claim 1, wherein:
 - the rotatable structure is the first structure;
 - the reflection sectors are mirrored surfaces;
 - the light that propagates along the reflected axis is reflected from at least one of the reflection sectors;
 - the light that propagates along the direct axis passes through at least one of the transmission sectors;
 - one of the first sensor and the second sensor includes an array of pixel groups;
 - a first pixel group includes plural pixels;
 - the plural pixels of the first pixel group include a first pixel; and
 - the first pixel is overlaid with first color microfilter.

3. The camera of claim 2, wherein:
the plural pixels of the first pixel group further include a second pixel; and
the second pixel is overlaid with a second color microfilter.
4. The camera of claim 3, wherein:
the plural pixels of the first pixel group further include a third pixel; and
the third pixel is overlaid with a third color microfilter.
5. The camera of claim 2, further comprising:
a first color filter disposed along the reflected axis between the rotatable structure and the first sensor when the second sensor includes the array of pixel groups;
and
a second color filter disposed along the direct axis between the rotatable structure and the second sensor when the first sensor includes the array of pixel groups.
6. The camera of claim 2, wherein:
the first reflection sector is coated with a color selective coating when the second sensor includes the array of pixel groups; and
the first transmission sector is coated with a color selective coating when the first sensor includes the array of pixel groups.
7. The camera of claim 1, wherein:
the rotatable structure is the first structure;
the light that propagates along the reflected axis is reflected from at least one of the reflection sectors;
the light that propagates along the direct axis passes through at least one of the transmission sectors; and
at least one of the first reflection sector is coated with a first reflection color selective coating and the first transmission sector is coated with a first transmission color selective coating.

8. The camera of claim 7, wherein:
the first reflection sector is coated with the first reflection color selective coating; and

the second reflection sector is coated with a second reflection color selective coating.

9. The camera of claim 8, further comprising a color filter disposed along the direct axis between the rotatable structure and the second sensor when the first reflection sector is coated with a first reflection color selective coating.

10. The camera of claim 8, wherein the first and second transmission sectors are coated with the first transmission color selective coating.

11. The camera of claim 7, wherein:
the first transmission sector is coated with the first transmission color selective coating; and

the second transmission sector is coated with a second transmission color selective coating.

12. The camera of claim 11, further comprising a color filter disposed along the reflected axis between the rotatable structure and the first sensor when the first transmission sector is coated with the first transmission color selective coating.

13. The camera of claim 11, wherein the first and second reflection sectors are coated with the first reflection color selective coating.

14. The camera of claim 7, wherein:
the first reflection sector is coated with the first reflection color selective coating; and

the first transmission sector is coated with the first transmission color selective coating.

15. The camera of claim 14, wherein the second transmission sector is coated with the first transmission color selective coating.

16. The camera of claim 14, wherein the second reflection sector is coated with the first reflection color selective coating.

17. The camera of claim 7, further comprising:

a first color filter disposed along the direct axis between the rotatable structure and the second sensor when the first reflection sector is coated with the first reflection color selective coating; and

a second color filter disposed along the reflected axis between the rotatable structure and the first sensor when the first transmission sector is coated with the first transmission color selective coating.

18. The camera of claim 1, wherein:

the rotatable structure is the second structure;

the reflection sector is a mirrored surface;

the light that propagates along the reflected axis is reflected from the first reflection sector;

the light that propagates along the direct axis passes through the first transmission sector;

one of the first sensor and the second sensor includes an array of pixel groups;

a first pixel group includes plural pixels;

the plural pixels of the first pixel group include a first pixel; and

the first pixel is overlaid with a first color microfilter.

19. The camera of claim 18, wherein:
the plural pixels of the first pixel group further include a second pixel; and
the second pixel is overlaid with a second color microfilter.
20. The camera of claim 19, wherein:
the plural pixels of the first pixel group further include a third pixel; and
the third pixel is overlaid with a third color microfilter.
21. The camera of claim 18, further comprising:
a first color filter disposed along the reflected axis between the rotatable structure and the first sensor when the second sensor includes the array of pixel groups;
and
a second color filter disposed along the direct axis between the rotatable structure and the second sensor when the first sensor includes the array of pixel groups.
22. The camera of claim 18, wherein:
the first reflection sector is coated with a color selective coating when the second sensor includes the array of pixel groups; and
the first transmission sector is coated with a color selective coating when the first sensor includes the array of pixel groups.
23. The camera of claim 1, wherein:
the rotatable structure is the second structure;
the light that propagates along the reflected axis is reflected from the first reflection sector;
the light that propagates along the direct axis passes through the first transmission sector; and
at least one of the first reflection sector is coated with a first reflection color selective coating and the first transmission sector is coated with a first transmission color selective coating.

24. The camera of claim 23, wherein:

the second structure further includes a second reflection sector disposed adjacent to the first transmission sector;

the first reflection sector is coated with the first reflection color selective coating; and

the second reflection sector is coated with a second reflection color selective coating.

25. The camera of claim 24, further comprising a color filter disposed along the direct axis between the rotatable structure and the second sensor when the first reflection sector is coated with a first reflection color selective coating.

26. The camera of claim 24, wherein:

the second structure further includes a second transmission sector disposed adjacent to the second reflection sector;

the first and second transmission sectors are coated with the first transmission color selective coating.

27. The camera of claim 23, wherein:

the second structure further includes a second transmission sector disposed adjacent to the second reflection sector;

the first transmission sector is coated with the first transmission color selective coating; and

the second transmission sector is coated with a second transmission color selective coating.

28. The camera of claim 27, further comprising a color filter disposed along the reflected axis between the rotatable structure and the first sensor when the first transmission sector is coated with the first transmission color selective coating.

29. The camera of claim 27, wherein:
the second structure further includes a second reflection sector disposed adjacent to the first transmission sector;

the first and second reflection sectors are coated with the first reflection color selective coating.

30. The camera of claim 23, wherein:
the first reflection sector is coated with the first reflection color selective coating; and

the first transmission sector is coated with the first transmission color selective coating.

31. The camera of claim 30, wherein:
the second structure further includes a second reflection sector disposed adjacent to the first transmission sector and a second transmission sector disposed adjacent to the second reflection sector;

the second transmission sector is coated with the first transmission color selective coating.

32. The camera of claim 30, wherein:
the second structure further includes a second reflection sector disposed adjacent to the first transmission sector;

the second reflection sector is coated with the first reflection color selective coating.

33. The camera of claim 23, further comprising:
a first color filter disposed along the direct axis between the rotatable structure and the second sensor when the first reflection sector is coated with the first reflection color selective coating; and

a second color filter disposed along the reflected axis between the rotatable structure and the first sensor when the first transmission sector is coated with the first transmission color selective coating.

34. The camera of claim 23, wherein:

the first sensor includes an array of pixel groups when the first transmission sector is coated with the first transmission color selective coating;

the second sensor includes the array of the pixel groups when the first reflection sector is coated with the first reflection color selective coating;

a first pixel group includes plural pixels;

the plural pixels of the first pixel group include a first pixel and a second pixel;

the first pixel is overlaid with a first color microfilter; and

the second pixel is overlaid with a second color microfilter.

35. The camera of claim 34, wherein:

the plural pixels of the first pixel group further include a third pixel; and

the third pixel is overlaid with a third color microfilter.

36. The camera of claim 1, wherein:

the rotatable structure is the second structure;

the second structure further includes a second opaque sector disposed adjacent to the first transmission sector, a second reflection sector disposed adjacent to the second opaque sector and a third opaque sector disposed adjacent to the second reflection sector;

the light that propagates along the direct axis passes through the first transmission sector; and

the light that propagates along the reflected axis is reflected from the first and second reflection sectors.

37. The camera of claim 1, wherein:

the rotatable structure is the second structure;

the second structure further includes a second opaque sector disposed adjacent to the first transmission sector, a second transmission sector disposed adjacent to the second opaque sector and a third opaque sector disposed adjacent to the second transmission sector;

the light that propagates along the direct axis passes through the first and second transmission sectors;

the light that propagates along the reflected axis is reflected from the first reflection sector.

38. The camera of claim 1, wherein the second structure further includes a second reflection sector disposed adjacent to the first transmission sector and a second transmission sector disposed adjacent to the second reflection sector.

39. The camera of claim 38, wherein the second structure further includes a third reflection sector disposed adjacent to the second transmission sector and a third transmission sector disposed adjacent to the third reflection sector.

40. The camera of claim 38, wherein:

the light that propagates along the reflected axis is reflected from the first reflection and second sectors; and

the first and second reflection sectors further include a coating that filters out near infrared wavelengths of the light.

41. The camera of claim 1, wherein:

the rotatable structure is the first structure;

the first and second reflection sectors are each characterized by a corresponding angular extent; and

the angular extent of the first reflection sector is unequal to the angular extent of the second reflection sector.

42. The camera of claim 41, wherein:

the first reflection sector includes a coating to reflect a first color;

the second reflection sector includes a coating to reflect a second color; and

the angular extent of the first reflection sector is greater than the angular extent of the second reflection sector by an amount sufficient to compensate for differences in at least one of a response sensitivity of the first sensor to the first color as compared to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

43. The camera of claim 1, wherein:

the rotatable structure is the first structure;

the first reflection sector and the first transmission sector are each characterized by a corresponding angular extent; and

the angular extent of the first reflection sector is unequal to the angular extent of the first transmission sector.

44. The camera of claim 43, wherein:

the first reflection sector includes a coating to reflect a first color;

the first transmission sector includes a coating to pass a second color; and

the angular extent of the first reflection sector is greater than the angular extent of the first transmission sector by an amount sufficient to compensate for differences in at least one of a first response sensitivity of the first sensor to the first color as compared to a second response sensitivity of the second sensor to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

45. The camera of claim 43, wherein:

the first transmission sector includes a coating to pass a first color;

the first reflection sector includes a coating to reflect a second color; and
the angular extent of the first transmission sector is greater than the angular extent of the first reflection sector by an amount sufficient to compensate for differences in at least one of a first response sensitivity of the second sensor to the first color as compared to a second response sensitivity of the first sensor to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

46. The camera of claim 1, wherein:
the rotatable structure is the first structure;
the first and second transmission sectors are each characterized by a corresponding angular extent; and
the angular extent of the first transmission sector is unequal to the angular extent of the second transmission sector.

47. The camera of claim 46, wherein:
the first transmission sector includes a coating to pass a first color;
the second transmission sector includes a coating to pass a second color;
and
the angular extent of the first transmission sector is greater than the angular extent of the second transmission sector by an amount sufficient to compensate for differences in at least one of a response sensitivity of the second sensor to the first color as compared to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

48. The camera of claim 1, wherein:
the rotatable structure is the second structure;
the first reflection sector and the first transmission sector are each characterized by a corresponding angular extent; and
the angular extent of the first reflection sector is unequal to the angular extent of the first transmission sector.

49. The camera of claim 48, wherein:

the second sensor includes an array of pixel groups;
a first pixel group includes plural pixels;
the plural pixels of the first pixel group include a first pixel;
the first pixel is overlaid with a first color microfilter;
the first reflection sector includes a coating to reflect a first color;
the first color microfilter selects a second color; and

the angular extent of the first reflection sector is greater than the angular extent of the first transmission sector by an amount sufficient to compensate for differences in at least one of a first response sensitivity of the first sensor to the first color as compared to a second response sensitivity of the second sensor to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

50. The camera of claim 48, wherein:

the first sensor includes an array of pixel groups;
a first pixel group includes plural pixels;
the plural pixels of the first pixel group include a first pixel;
the first pixel is overlaid with a first color microfilter;
the first transmission sector includes a coating to pass a first color;
the first color microfilter selects a second color; and

the angular extent of the first transmission sector is greater than the angular extent of the first reflection sector by an amount sufficient to compensate for differences in at least one of a first response sensitivity of the second sensor to the first color as compared to a second response sensitivity of the first sensor to the second color and an ocular sensitivity of a human observer to the first color as compared to the second color.

51. A camera comprising:

a first sensor disposed to image light that propagates along a first reflected axis;

a second sensor disposed to image light that propagates along a second reflected axis;

a third sensor disposed to image light that propagates along a direct axis;

a first rotatable structure disposed to define a first rotation plane that is oblique to the first reflected axis and the direct axis, the first rotatable structure having a first reflection sector and a first transmission sector disposed adjacent to the first reflection sector; and

a second rotatable structure disposed to define a second rotation plane that is oblique to the second reflected axis and the direct axis, the second rotatable structure having a second reflection sector and a second transmission sector disposed adjacent to the second reflection sector.

52. A method comprising steps of:

integrating a first charge in a first sensor of a camera while a first image light reflects from a first reflection sector of a rotatable structure onto the first sensor;

transferring the integrated first charge from the first sensor while the rotatable structure prevents the first image light from impinging on the first sensor;

integrating a second charge in a second sensor of the camera while a second image light passes through a first transmission sector of the rotatable structure onto the second sensor; and

transferring the integrated second charge from the second sensor while the rotatable structure prevents the second image light from impinging on the second sensor.

53. A method comprising steps of:

integrating a first charge in a first sensor of a camera while a first image light reflects from a first reflection sector of a rotatable structure onto the first sensor;

integrating a second charge in a second sensor of the camera while a second image light passes through a first transmission sector of the rotatable structure onto the second sensor; and

transferring the integrated first and second charge from the respective first and second sensors while a first opaque sector of the rotatable structure prevents the first and second image light from impinging on at least one of the first and second sensors.

54. A method comprising steps of:

integrating a first charge in a first sensor of a camera while a first image light reflects from a first reflection sector of a rotatable structure, which prevents transmission of a second image light onto a second sensor of the camera, onto the first sensor;

transferring the integrated first charge from the first sensor while a first opaque sector of the rotatable structure prevents the first image light from impinging on the first sensor; and

integrating a second charge in the second sensor while the second image light passes through a first transmission sector of the rotatable structure onto the second sensor.

55. The method of claim 54, further comprising a step of transferring the integrated second charge from the second sensor while the first reflection sector prevents the second image light from impinging on the second sensor.

56. The method of claim 54, comprising steps of:

transferring the integrated second charge from the second sensor while a second reflection sector of the rotatable structure prevents the second image light from impinging on the second sensor of the camera;

integrating a third charge in the first sensor while the first image light reflects from the second reflection sector onto the first sensor;

transferring the integrated third charge from the first sensor while a second transmission sector of the rotatable structure prevents the first image light from impinging on the first sensor;

integrating a fourth charge in the second sensor while the second image light passes through the second transmission sector onto the second sensor; and

transferring the integrated fourth charge from the second sensor while the first reflection sector prevents the second image light from impinging on the second sensor of the camera.

57. The method of claim 54, comprising steps of:

transferring the integrated second charge from the second sensor while a second opaque sector of the rotatable structure prevents the second image light from impinging on the second sensor;

integrating a third charge in the first sensor while the first image light reflects from a second reflection sector of the rotatable structure onto the first sensor; and

transferring the integrated third charge from the first sensor while a third opaque sector of the rotatable structure prevents the first image light from impinging on the first sensor.

58. The method of claim 54, comprising steps of:

transferring the integrated second charge from the second sensor while a second opaque sector of the rotatable structure prevents the second image light from impinging on the second sensor;

integrating a third charge in the second sensor while the second image light passes through a second transmission sector of the rotatable structure onto the second sensor; and

transferring the integrated third charge from the second sensor while a third opaque sector of the rotatable structure prevents the second image light from impinging on the second sensor.

59. A method camera comprising steps of:

integrating a first charge on a first sensor of a camera while a first image light reflects from a first reflection sector of a first rotatable structure onto the first sensor;

transferring the integrated first charge from the first sensor while at least one of a first transmission sector of the first rotatable structure, a second reflection sector of a second rotatable structure, and a second transmission sector of the second rotatable structure prevents the first image light from impinging on the first sensor;

integrating a second charge on a second sensor of the camera while a second image light reflects from the second reflection sector onto the second sensor;

transferring the integrated second charge from the second sensor while at least one of the first reflection sector, the first transmission sector, and the second transmission sector prevents the second image light from impinging on the second sensor;

integrating a third charge on a third sensor of the camera while a third image light passes through at least one of the first transmission sector and the second transmission sector onto the third sensor; and

transferring the integrated third charge from the third sensor while at least one of the first reflection sector and the second reflection sector prevents the third image light from impinging on the third sensor.